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Alcatel-Lucent Lauds the Commission's Tentative Conclusions on the Public Safety 700 MHz Band [FCC 07-72]

Alcatel-Lucent Position: First Responders Must be Afforded the Significant Benefits of Commercial Broadband Technologies

- “... providing broadband **spectrum** for advanced public **safety** communications would **best serve our goal of enabling first responders to protect safety of life, health and property.**” [¶253, FCC 07-72]
- “... only through **use** of broadband networks could public **safety** leverage **advanced commercial technologies** and **infrastructure** to reduce **costs** and speed deployment, and **enable** the potential for priority **access** to commercial **networks** during emergencies.” [¶253, FCC 07-72]

Alcatel-Lucent Position: Broadband Only. Mixed Broadband + Wideband “Flexible” Plans are Inadvisable

- “... such flexibility could **hinder** efforts to **deploy** a nationwide, interoperable broadband network by perpetuating a balkanization of public **safety spectrum licenses, networks, and technology deployment.**” [¶253, FCC 07-72]
- “We ... reallocate **spectrum** previously designated for wideband **use** for broadband **use** only, and prohibit wideband **operations** on a going forward basis” [¶253, FCC 07-72]

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Alcatel-Lucent Position: Deployment of Broadband Network Must be Based on a Nationwide Standard Leveraging Commercial Broadband Technologies

- “...we believe that only broadband applications consistent with a nationwide interoperability standard should be deployed in the current wideband allocation of the 700 MHz band.” [¶253, FCC 07-72]

Alcatel-Lucent Position: Narrowband Spectrum Should Be Consolidated to Upper Portion of the Public Safety 700MHz Allocation

- “Further, should we adopt this broadband approach, we tentatively conclude that we should consolidate the existing narrowband allocations to the upper half of the 700 MHz Public Safety Band.” [¶250, FCC 07-72]

Alcatel-Lucent Further Recommendations

Quick Decision Required on Public Safety 700 MHz Band Plan

- Minimum channel **size** of 1.25 MHz with aggregation up to 5 MHz
 - Internal guardband **size based on broadband** and narrowband coordination
 - Access method limited to **Frequency-Division-Duplex (FDD)**
 - Broadband emission limits on **par** with commercial **broadband**

Quick Decision Required on the Public Safety Operator Model

Nationwide Public Safety Broadband Standard

- Technology Selection in **Advance** of Spectrum **Clearance Date**
- Open and Transparent Technology Selection **Process**

Appendix

Broadband vs. Wideband

Today's Broadband Technologies are >10 Times More Spectrally Efficient than Wideband

At Like Data Rates and Coverage Criteria, Today's Broadband Technologies Offer Ranges Comparable to Wideband (TIA-902)

- Broadband technologies are the right answer for urban, suburban and rural environments

Broadband Technologies offer Cost Advantages Absent in Wideband Technologies

- Scale economies through re-banding of existing commercial broadband technologies
- Robust, competitive ecosystem largely absent from today's public safety market

Pitfalls of Mixed Broadband + Wideband Band Plans

Spectrum Managed locally (flexibility) with nationwide implications:

- **Broadband + Wideband Hampers Interoperability**
 - Multimode devices required, network evolution hampered
- **Broadband + Wideband Fragments Greenfield Spectrum**
 - Preserving contiguous blocks of broadband spectrum today essential for use of broadband technologies tomorrow
- **Broadband + Wideband Wastes Spectrum**
 - Broadband technologies today are an order of magnitude more spectrally efficient than wideband. This gap will continue to widen.

“...any application that will run on a wideband network can also run, faster and supporting more simultaneous users, on a broadband network (while the reverse is not necessarily true).”

8th NPRM Comments of the
Spectrum Coalition for Public Safety (Docket 96-86)

Benefits of a Broadband-only Plan

Makes Best Use of Limited Public Safety Spectrum

Encourages Deployment of Cooperative Regional Networks

- **Increased** Spectral efficiency through **use** of **spectrally efficient** broadband technologies, pooling of **spectrum resources**
- **Cross-Agency**, Cross-Jurisdiction Interoperability by design
 - E.g., National Capital Region's Regional Wireless Broadband Network

Aligns Public Safety Broadband with Commercial Market Forces

- Scale **Economies**, R&D investment

Easier Frequency Planning

- **Same** channels used in adjacent sectors

Supports All Envisaged Public Safety Applications